Building Digital Libraries with NCore: Technologies and Standards that Power NSDL's Core Infrastructure

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NCore is the new name for a suite of technologies and standards that powers the National Science Digital Library's (NSDL) core infrastructure. It was designed to replace NSDL's original metadata record-based data paradigm allowing for greater flexibility in collaborating and creating context around library resources. In its first phase, completed in January 2007, NSDL successfully implemented existing services on top of NCore in the production environment—a change that was largely invisible to the outside world. Now, NSDL is taking advantage of what this platform has to offer in developing next-generation library services and collaborative tools.

Throughout this period, the NCore suite of technologies and services[1] has grown and improved through an iterative process. NCore is evolving into a general platform for building digital libraries united by a common data model and interoperable applications. Recently, DLESE (Digital Library for Earth Science Education) ported their existing infrastructure to NCore. They were able to overlay their data model on top of the NCore model, allowing specialized DLESE services to continue without loss of functionality and co-exist alongside of, but independent from, NSDL.

The NCore platform consists of a central repository[2] build on top of Fedora, a data model and API, and a number of fundamental services such as full-text search or OAI-PMH. Major NSDL services and tools are now built on, or transitioning to, this NCore platform. These include: the Expert Voices blogging system; the NSDL Wiki; the NSDL OAI-PMH metadata ingest aggregation system; the OAI-PMH service for distributing public NSDL metadata; the NSDL Collection System (NCS), derived from the DLESE Collection system (DCS); the NSDL Search service, and the OnRamp content management and distribution system. Future NSDL tools and services will continue to expand the capabilities of the NCore platform.

Because NCore is a general Fedora-based open source platform useful beyond NSDL, Core Integration developers at Cornell have made the repository and API code components of NCore available for download at the NCore project on Sourceforge[3]. Over the next six months, NSDL expects to release the code for all major tools and services that comprise the full NCore suite on the SourceForge site. The NCore project aims to support NSDL's continued growth and to meet the needs of new, existing, or evolving digital libraries.

1. http://wiki.nsdl.org/index.php/Community:NCore/Membership_and_Projection

2. http://wiki.nsdl.org/index.php/Community:NDR

3. http://sourceforge.net/projects/nsdl-core